

IN THE CLAIMS

1. (original) A method of heating objects with microwaves, comprising the step of passing microwaves emitted from a microwave generator toward an oven through a propagation path shaped so as to not hinder the propagation of microwaves incident toward the oven, and shaped so to make the cross-sectional area of the oven side port portion of the propagation path larger than the cross-sectional area of the microwave generator side port portion of the propagation path, wherein a microwave reflector apparatus is provided at a prescribed position inside the propagation path to reflect most of the reflected microwaves from the oven heading toward the microwave generator back into the oven to reduce reflected waves and facilitate heating matching.

2. (original) The microwave heating method of Claim 1, further comprising the step of passing the microwaves incident toward the oven through a straight metal tube having a prescribed length and port portions having the same size and shape as the oven side port portion of the propagation path to reduce reflected waves and facilitate heating matching.

3. (currently amended) ~~A method of heating objects with microwaves, comprising~~ The microwave heating method of Claim 1 or Claim 2, further comprising the step of passing microwaves emitted from a microwave generator through a microwave introduction port into an oven provided with a metal reflection diffusion apparatus arranged at a prescribed position in front of the microwave introduction port at a prescribed distance therefrom, whereby a prescribed ratio of the microwaves incident into the oven undergo reflection diffusion, wherein the major portion of the reflection diffused microwaves are directed away from

the position of the reflection diffusion apparatus toward the inside of the oven in order to reduce reflected waves and facilitate heating matching.

4. (currently amended) The microwave heating method of Claim 1[[,]] or Claim 2 ~~or Claim 3~~, wherein the oven is provided with a plurality of microwave introduction ports arranged at opposing positions to enable uniform heating in order to reduce reflected waves and facilitate heating matching.

5. (original) A method of heating objects with microwaves, comprising the steps of: passing microwaves emitted from a microwave generator toward an oven through a propagation path shaped so as to not hinder the propagation of microwaves incident toward the oven, and shaped so to make the cross-sectional area of the oven side port portion of the propagation path larger than the cross-sectional area of the microwave generator side port portion of the propagation path, wherein a microwave reflector apparatus is provided at a prescribed position inside the propagation path to reflect most of the reflected microwaves from the oven heading toward the microwave generator back into the oven;

passing the microwaves incident toward the oven through a straight metal tube having a prescribed length and port portions having the same size and shape as the oven side port portion of the propagation path; and

passing the microwaves incident toward the oven through a microwave introduction port into the oven, wherein the oven is provided with a metal reflection diffusion apparatus arranged at a prescribed position in front of the prescribed ratio of the microwaves incident into the oven undergo reflection diffusion, wherein the major portion of the reflection diffused microwaves are directed away from the position of the reflection diffusion apparatus toward the inside of the oven in order to reduce

waves and facilitate heating matching.

6. (original) A method of heating objects with microwaves, comprising the steps of:

passing microwaves emitted from a microwave generator toward an oven through a propagation path shaped so as to not hinder the propagation of microwaves incident toward the oven, and shaped so to make the cross-sectional area of the oven side port portion of the propagation path larger than the cross-sectional area of the microwave generator side port portion of the propagation path, wherein a microwave reflector apparatus is provided at a prescribed position inside the propagation path to reflect most of the reflected microwaves from the oven heading toward the microwave generator back into the oven;

passing the microwaves incident toward the oven through a straight metal tube having a prescribed length and port portions having the same size and shape as the oven side port portion of the propagation path; and

passing the microwaves incident toward the oven through a microwave introduction port into the oven, wherein the oven is provided with a metal reflection diffusion apparatus arranged at a prescribed position in front of the microwave introduction port at a prescribed distance therefrom, whereby a prescribed ratio of the microwaves incident into the oven undergo reflection diffusion, wherein the major portion of the reflection diffused microwaves are directed away from the position of the reflection diffusion apparatus toward the inside of the oven in order to reduce reflected waves and facilitate heating matching;

wherein the oven is provided with a plurality of microwave introduction ports arranged at opposing positions to enable uniform heating in order to reduce reflected waves and facilitate heating matching.

7. (canceled)

8. (canceled)

9. (canceled)

10. (original) An apparatus for heating objects with microwaves, comprising:

a microwave generator

an oven;

a microwave introduction port formed in the oven; and

a fixed metal reflection diffusion apparatus arranged in the oven at a prescribed position in front of the microwave introduction port at a prescribed distance therefrom, whereby a prescribed ratio of the microwaves incident into the oven undergo reflection diffusion, wherein the major portion of the reflection diffused microwaves are directed away from the position of the reflection diffusion apparatus toward the inside of the oven.

11. (original) The microwave heating apparatus of Claim 10, wherein the fixed metal reflection diffusion apparatus has a plurality of V-shaped or U-shaped blades having a prescribed length and width radiating out from a central portion, and wherein the reflection diffusion apparatus is arranged so that the vertex line side of the blades faces the microwave introduction port of the oven.

12. (currently amended) The microwave heating apparatus of Claim 10 or Claim 11, wherein the fixed metal reflection diffusion apparatus is formed as a prescribed size cone, bell, pyramid or other similar shape, and wherein the reflection diffusion apparatus is arranged so that the vertex thereof faces the microwave introduction port of the oven.

13. (currently amended) The microwave heating apparatus of ~~Claim 7 or~~ Claim 10 or Claim 11, further comprising a

plurality of microwave introduction ports formed in the oven at opposing positions to produce uniform heating.

14. (canceled)

15. (canceled)

16. (new) The microwave heating method of Claim 3, wherein the oven is provided with a plurality of microwave introduction ports arranged at opposing positions to enable uniform heating in order to reduce reflected waves and facilitate heating matching.

17. (new) The microwave heating apparatus of Claim 12, further comprising a plurality of microwave introduction ports formed in the oven at opposing positions to produce uniform heating.